

FIG 2

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FIG.3

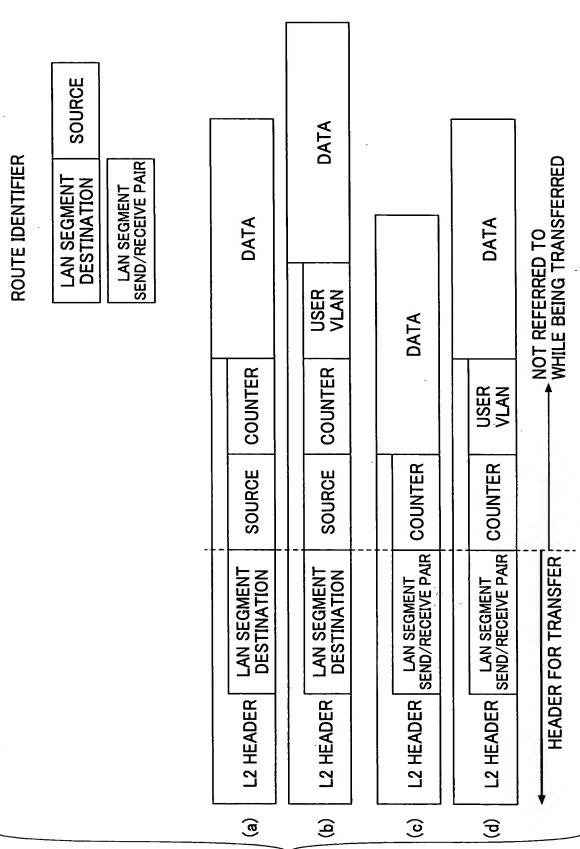
ETHERNET HEADER TAG C	OUNTER PAYLOAD
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Docket # 290617US40PCT Sheet 4 of 56 → NOT REFERRED TO WHILE BEING TRANSFERRED ROUTE IDENTIFIER LAN SEGMENT SEND/RECEIVE PAIR DATA DATA DATA DATA DATA DATA SEND/RECEIVE COUNTER USER VLAN COUNTER USER VLAN DATA DATA COUNTER USER VLAN COUNTER | USER VLAN COUNTER SEND/RECEIVE COUNTER DATA SEND/RECEIVE PAIR SEND/RECEIVE PAIR COUNTER COUNTER VLAN TAG DATA HEADER FOR TRANSFER LAN SEGMENT LAN SEGMENT LAN SEGMENT LAN SEGMENT **USER VLAN** L2 HEADER **6** \equiv \equiv 9 REDUNDANT SEND PACKET
(WHEN DIFFERENT NETWORKS
ARE USED AND SEND
/RECEIVE IS 1:1) <u>a</u> 9 ত্ত **e** £ REDUNDANT SEND PACKET (WHEN DIFFERENT NETWORKS ARE USED) છ REDUNDANT SEND PACKET (WHEN SEND /RECEIVE IS 1:1) REDUNDANT SEND PACKET SEND PACKET (ETHERNET)

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FIG.4

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-1G.5

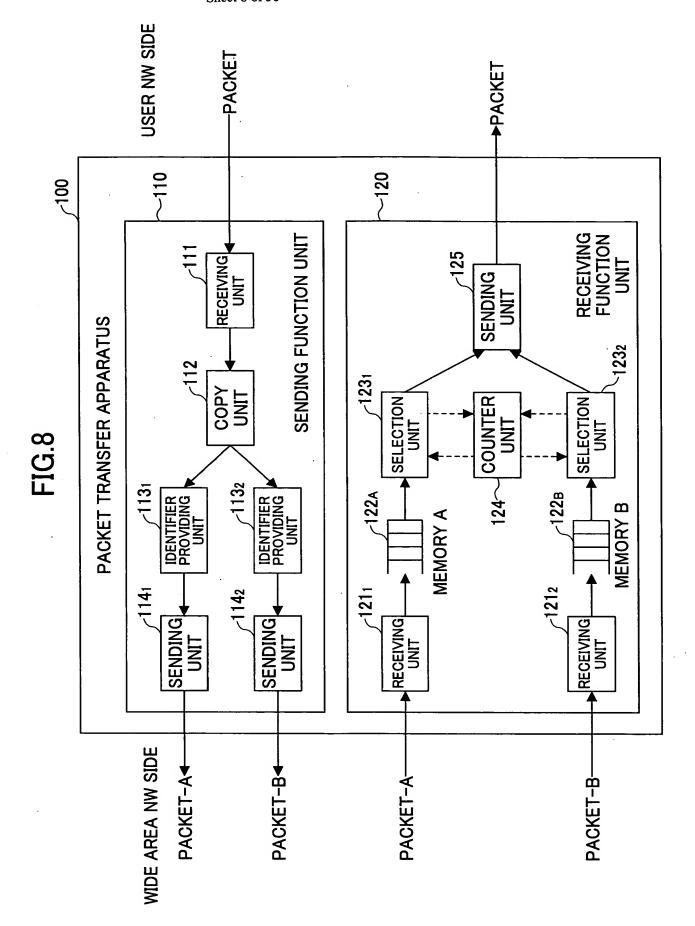
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œ		Sheet 6	of 56			•		
ROUTE IDENTIFIER SEND/RECEIVE PAIR	SEND PACKET (a) HEADER 1 SHIM L3 DATA	(b) EoMPLS ETC. HEADER HEADER N HEADER HEADER DATA		G.6 L2 SHIM SEND/ COUNTER L3 DATA RECEIVE COUNTER HEADER 1 HEADER 1 HEADER N PAIR COUNTER HEADER DATA	SEND PACKET (d) L2 SHIM SHIM RECEIVE COUNTER HEADER 1 HEADER N PAIR COUNTER HEADER DATA	(e) L2 SHIM SHIM COUNTER HEADER I HEADER I HEADER HEADER HEADER DATA	PACKET (WHEN SEND L2 SHIM SHIM COUNTER L2 L3 DATA /RECEIVE IS 1:1) (f) HEADER HEADER 1 HEADER N COUNTER HEADER HEADER	HEADER FOR TRANSFER WHILE BEING TRANSFERED

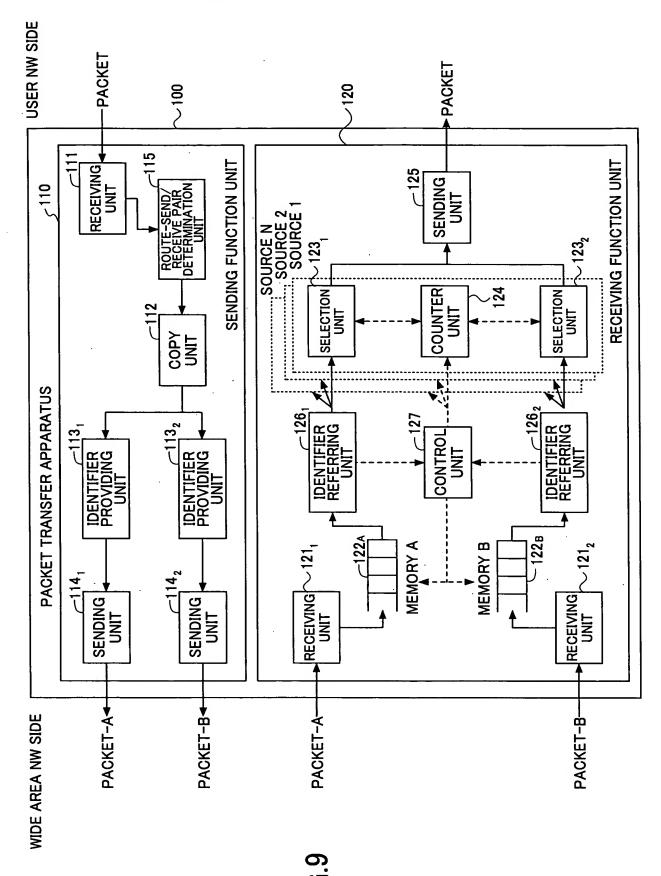
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ROUTE IDENTIFIER ROLITE SEND/RECEIVE				DATA			[]	
ROUTE		DATA	.3 HEADER			DATA	NOT REFERRED TO WHILE BEING TRANSFERRED	
	DATA		L3 HEADER	SEND/RECEIVE COUNTER L2 HEADER L3 HEADER		S DATA	COUNTER L2 HEADER L3 HEADER	NOT REFERRED TO WHILE BEING TRAN
DATA		\Box	SEND/RECEIVE COUNTER L3 HEADER	COUNTER		COUNTER L3 HEADER	L2 HEADEF	ON A
	APSULATION L2 HEADER L3 HEADER					COUNTER		
ГЗ НЕАБ	L2 HEAD		ROUTE	ROUTE		ROUTE	ROUTE	RANSFER
ENCAPSULATION L3 HEADER	ENC		ENCAPSULATION HEADER	ENCAPSULATION HEADER		ENCAPSULATION HEADER	ENCAPSULATION HEADER	HEADER FOR TRANSFER
(a)	ELING		છ	Э		(e)	Œ	뿦
SEND PACKET (a) (b) L2 TUNNELING		REDUNDANT SEND PACKET			REDUNDANT SEND PACKET (WHEN SEND /RECEIVE IS 1:1)			
IG. 7								

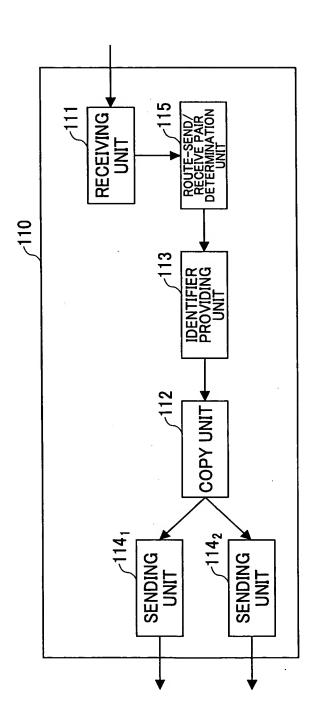
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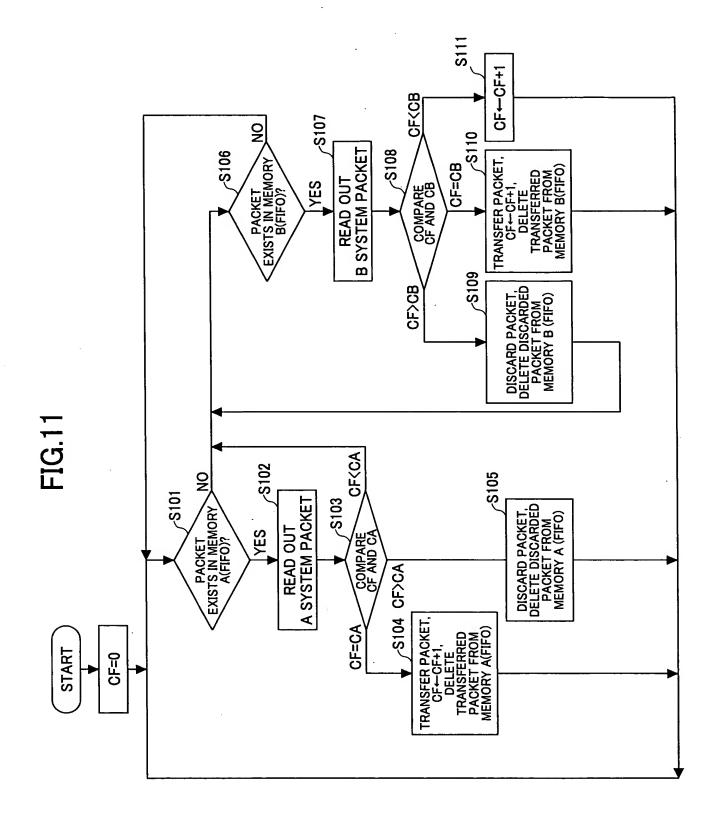


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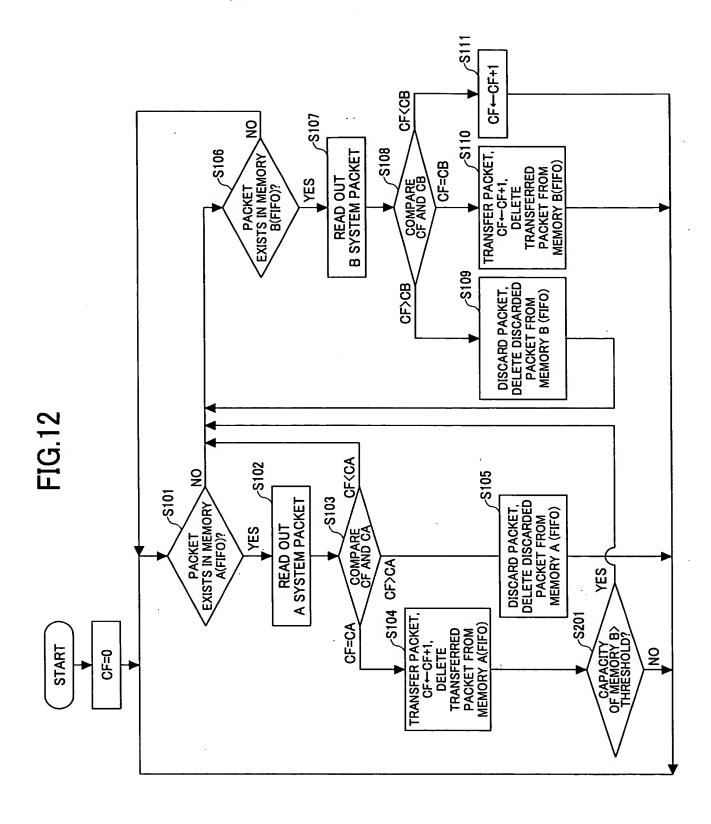




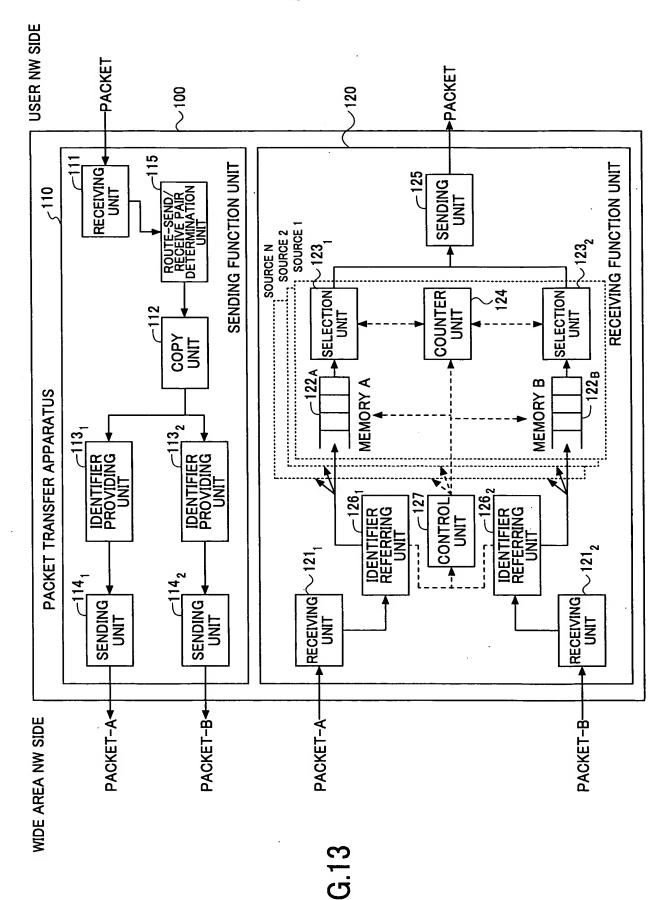




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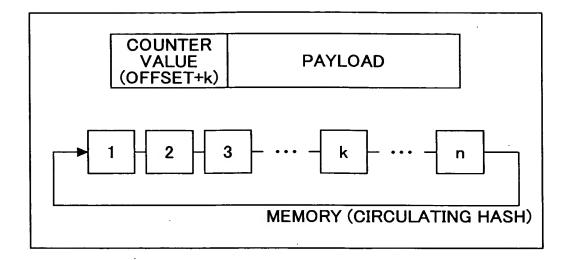


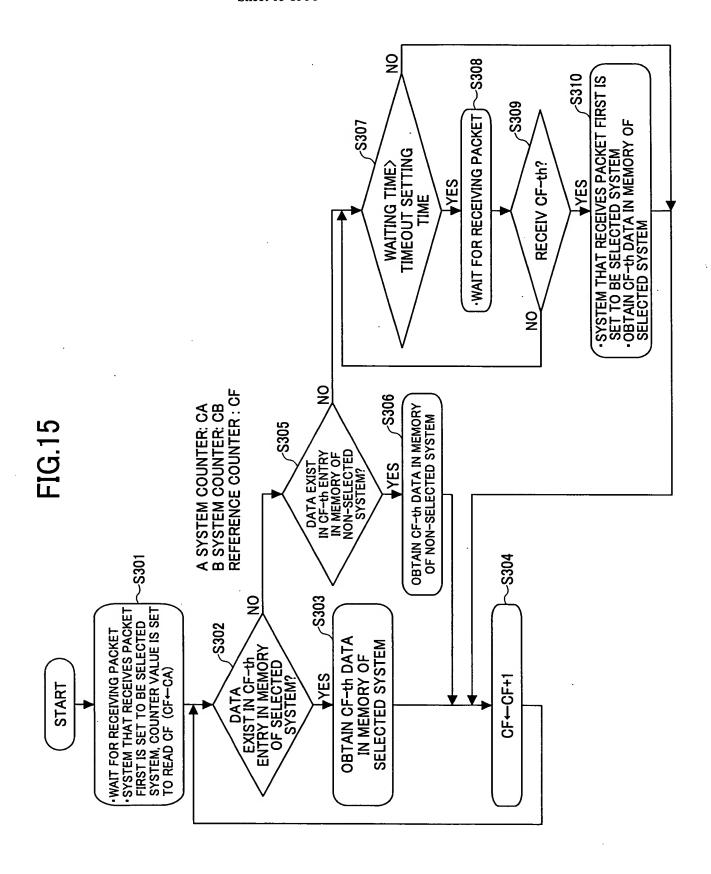
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FIG.14





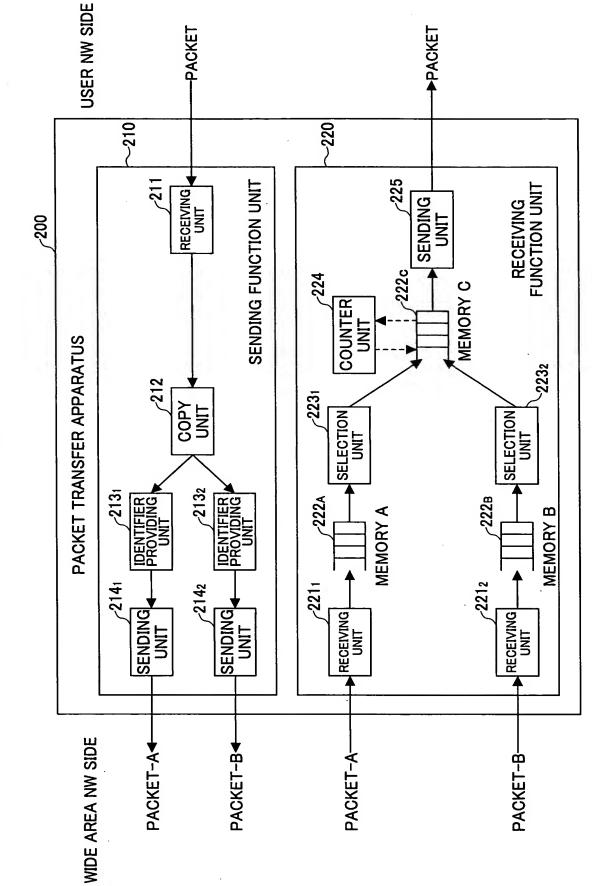
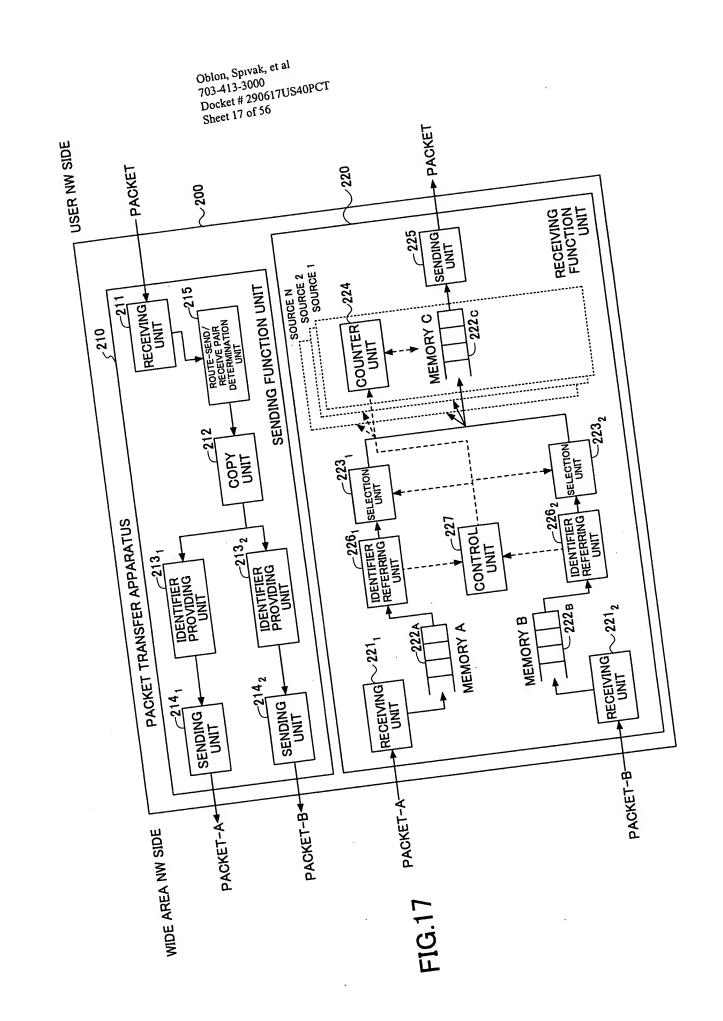
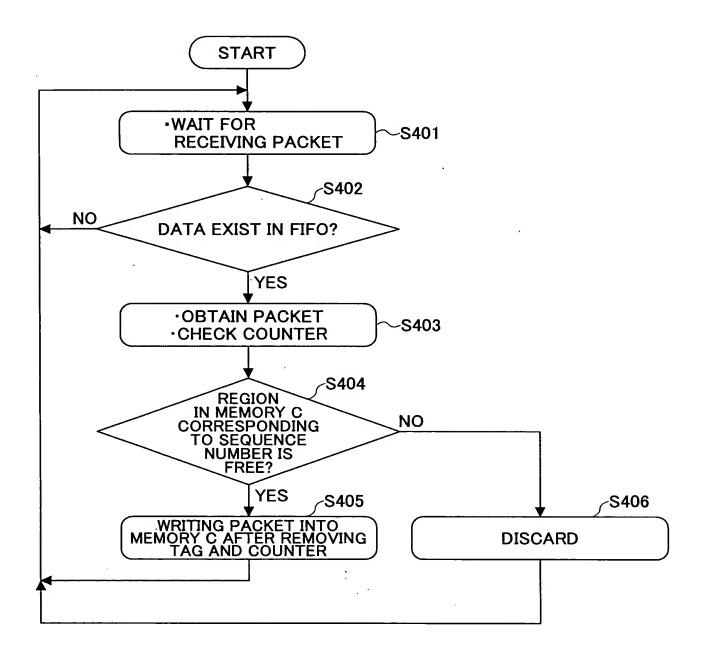


FIG.16



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FIG.18



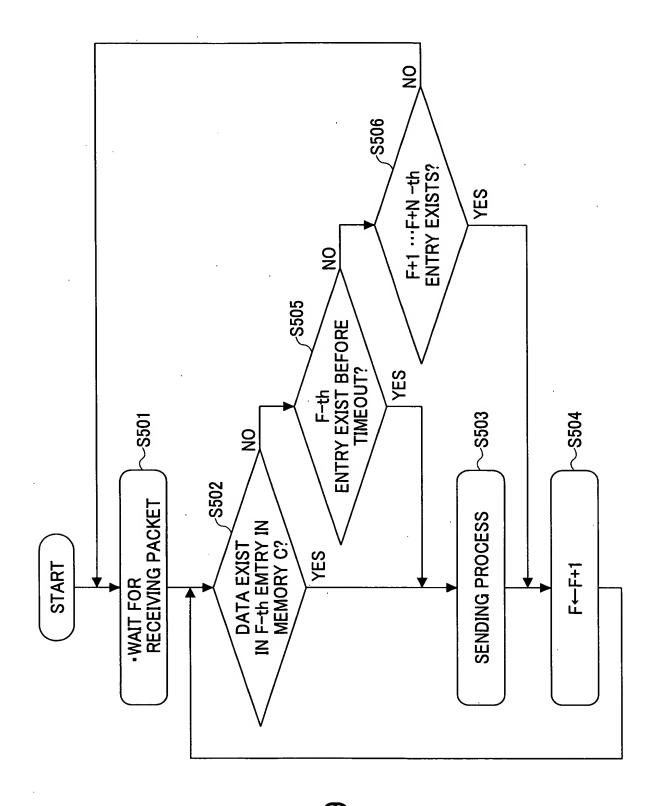
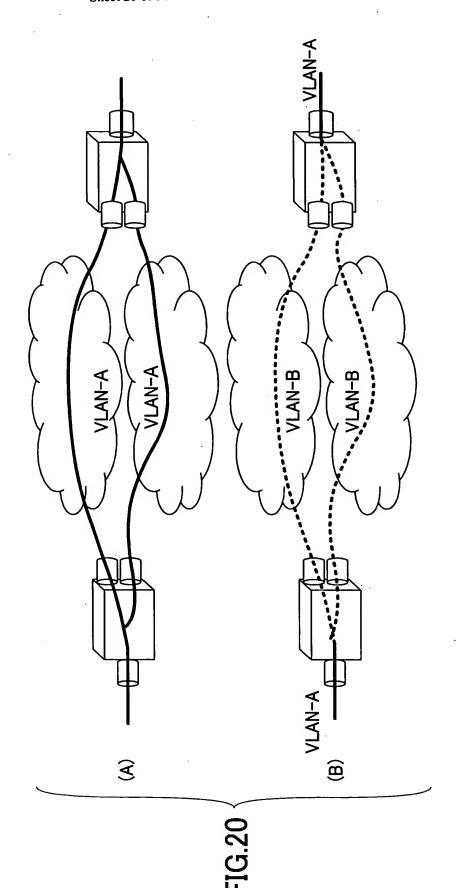


FIG. 19

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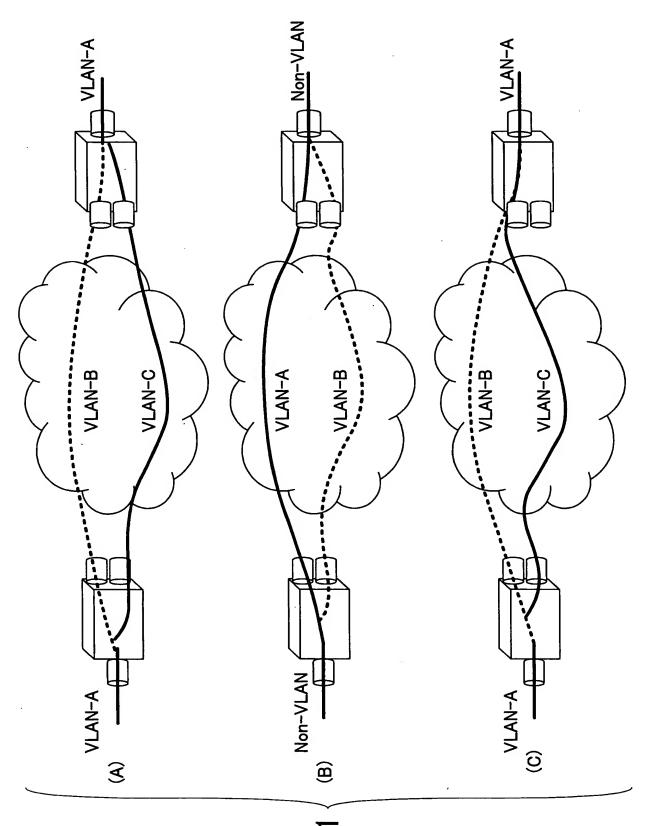
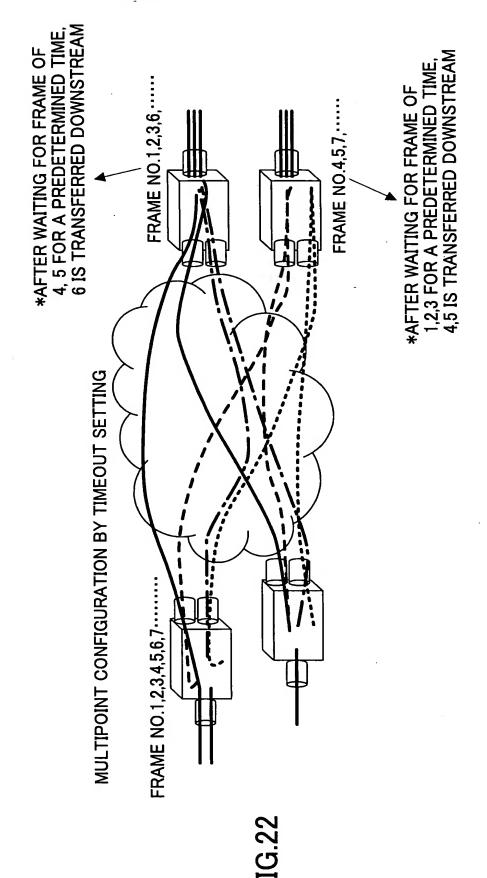


FIG.21

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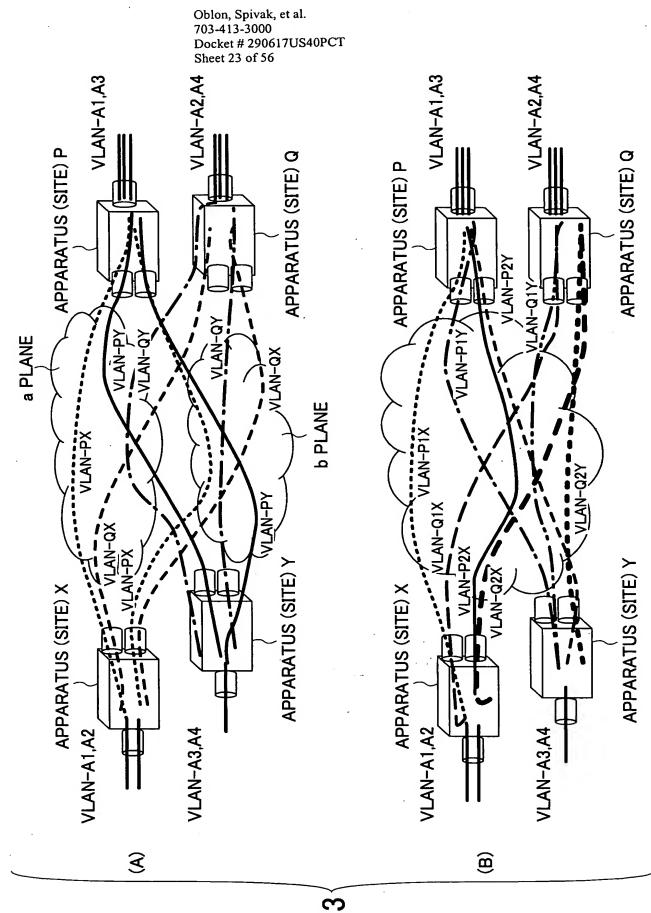


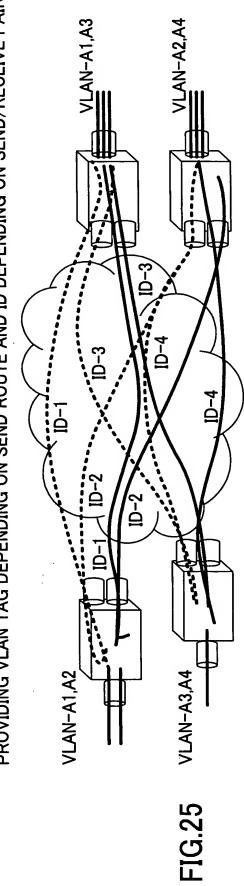
FIG.23

Oblon, Spivak, et al. 703-413-3000 Docket # 290617US40PCT Sheet 24 of 56 VLAN-A2,A4 APPARATUS (SITE) P APPARATUS (SITE) Q APPARATUS (SITE) P APPARATUS (SITE) Q VLAN-P2:VLAN-Y VLAN-Q1:VLAN-Y VLAN-Q:VLAN-X VLAN-P1:VLAN-Y a PLANE **b** PLANE VLAN-P1:VLAN-X VLAN-P:VLAN-Y AN-Q1:VLAN-X AN-P2:VLAN-X VLAN-Q2:VLAN-X APPARATUS (SITE) Y APPARATUS (SITE) Y APPARATUS (SITE) X APPARATUS (SITE) X VLAN-A3,A4 VLAN-A3,A4 3 <u>@</u>

FIG.24

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PROVIDING VLAN TAG DEPENDING ON SEND ROUTE AND ID DEPENDING ON SEND/RECEIVE PAIR



····· VLAN-B

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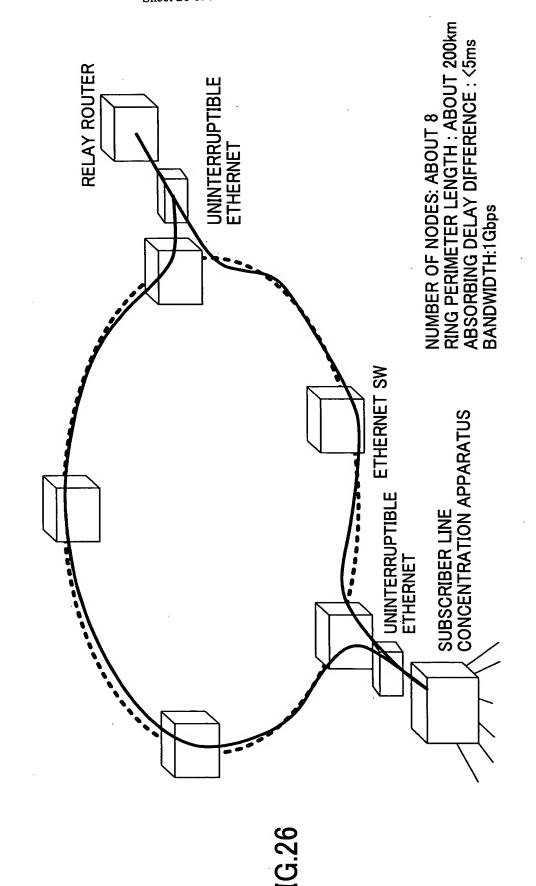
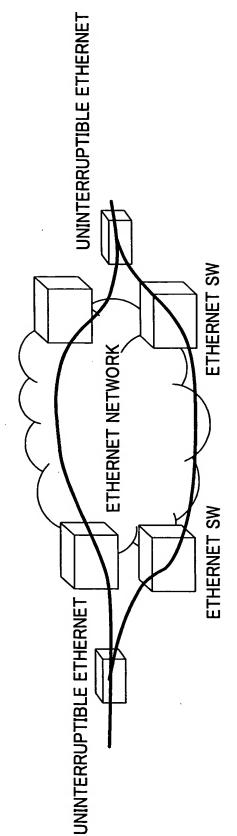


FIG.27

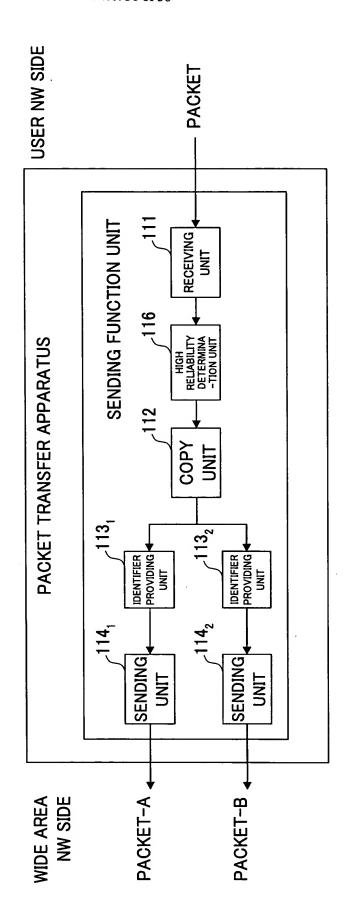


NUMBER OF NODES: ABOUT 5-15 DISTANCE BETWEEN NODES: ABOUT 200-1000km ABSORBING DELAY DIFFERENCE :<20ms BANDWIDTH: 10M-1Gbps

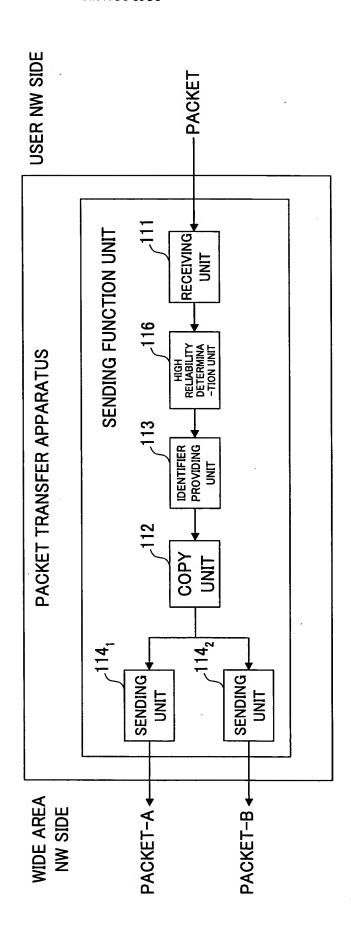
Oblon, Spivak, et al. 703-413-3000 Docket # 290617US40PCT Sheet 28 of 56 ∾-SEND COUNTER USING BYTE FOR LSS (IN IFG) S. D. φ. 9 9 Φ σ O) တ-တ 9 9. 9 12 7 5 <u>က</u> <u>က</u> **B-SYS** A-SYS A-SYS initial COPY + <u>B</u>

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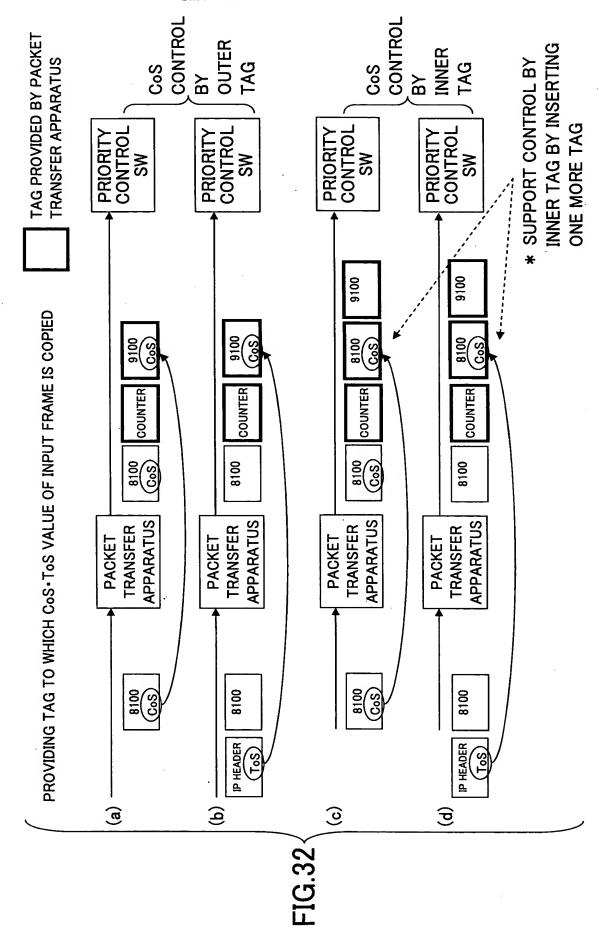




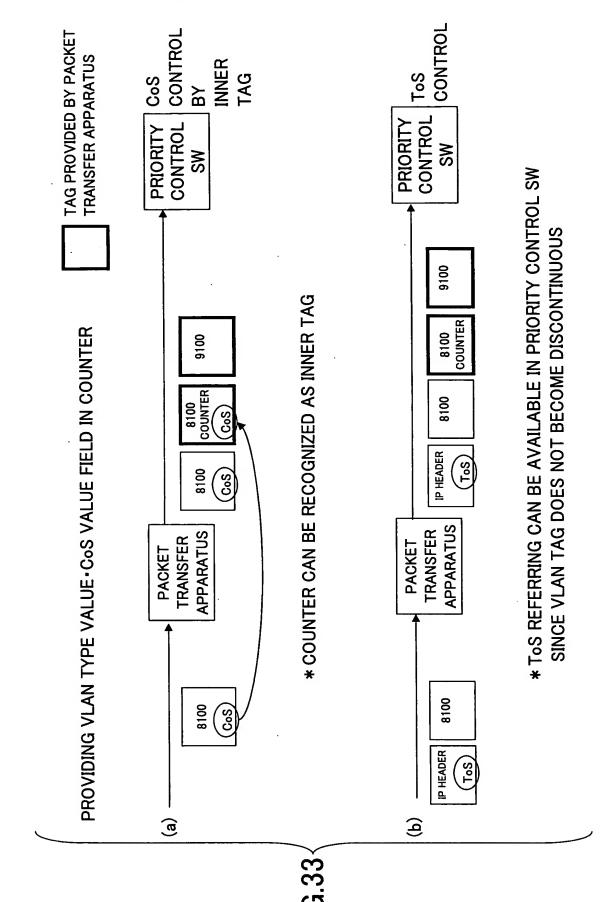




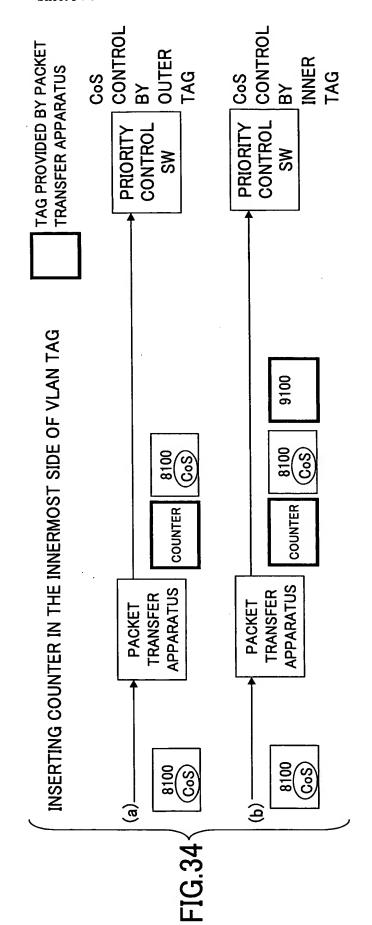
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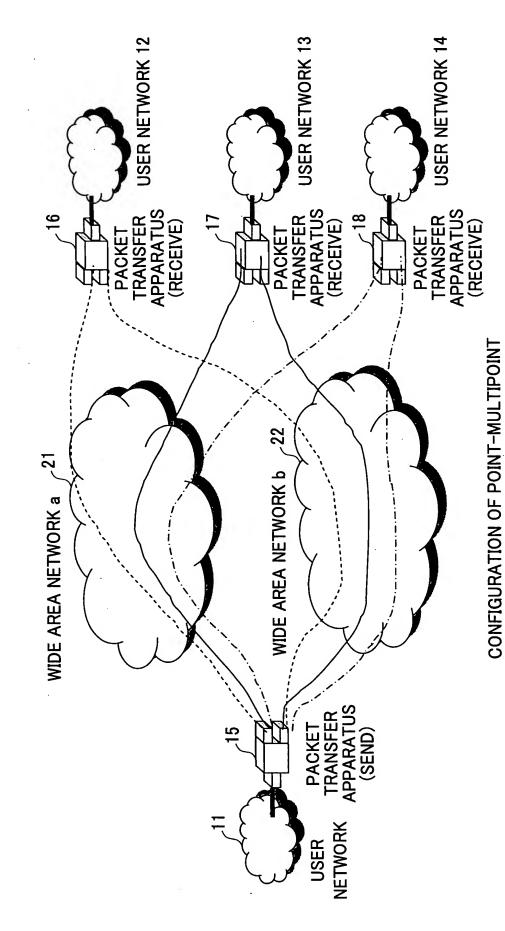
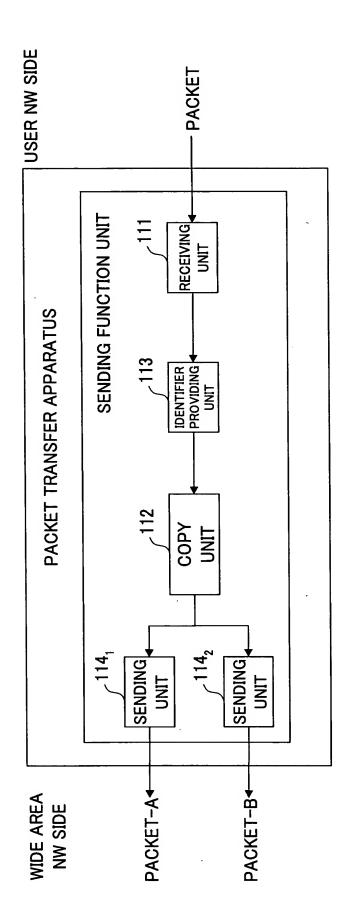


FIG.35





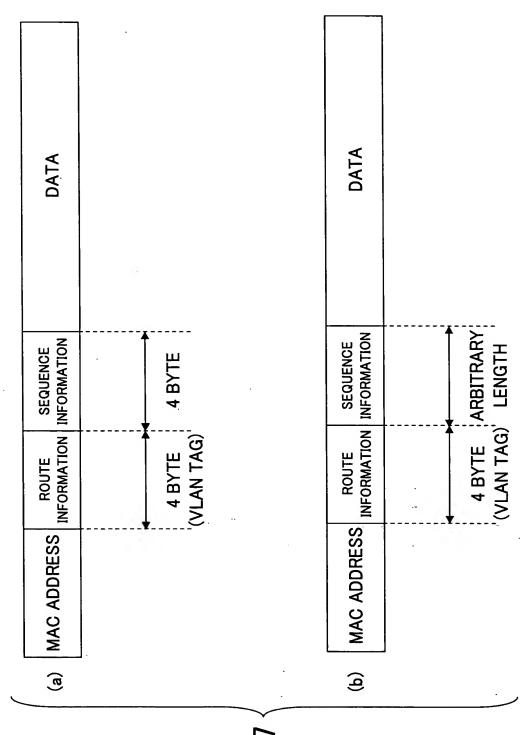
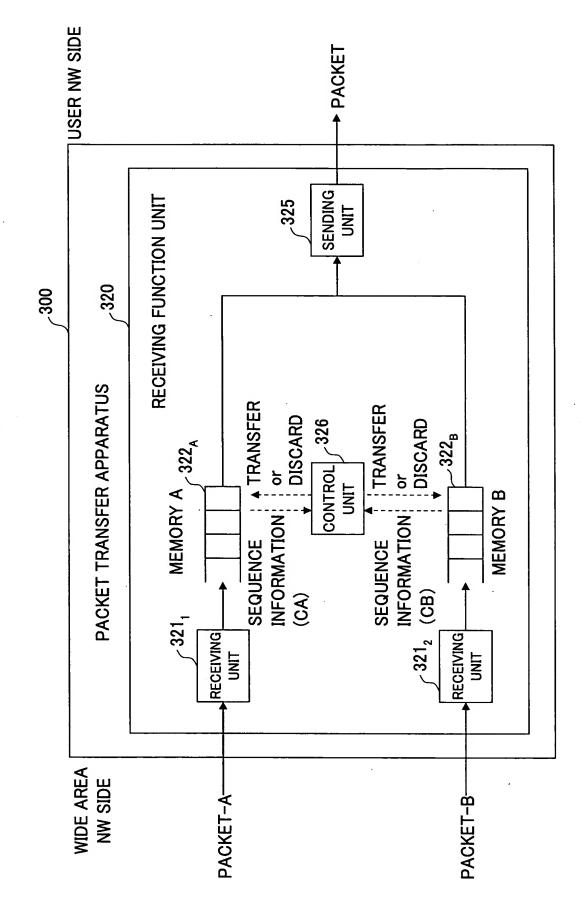
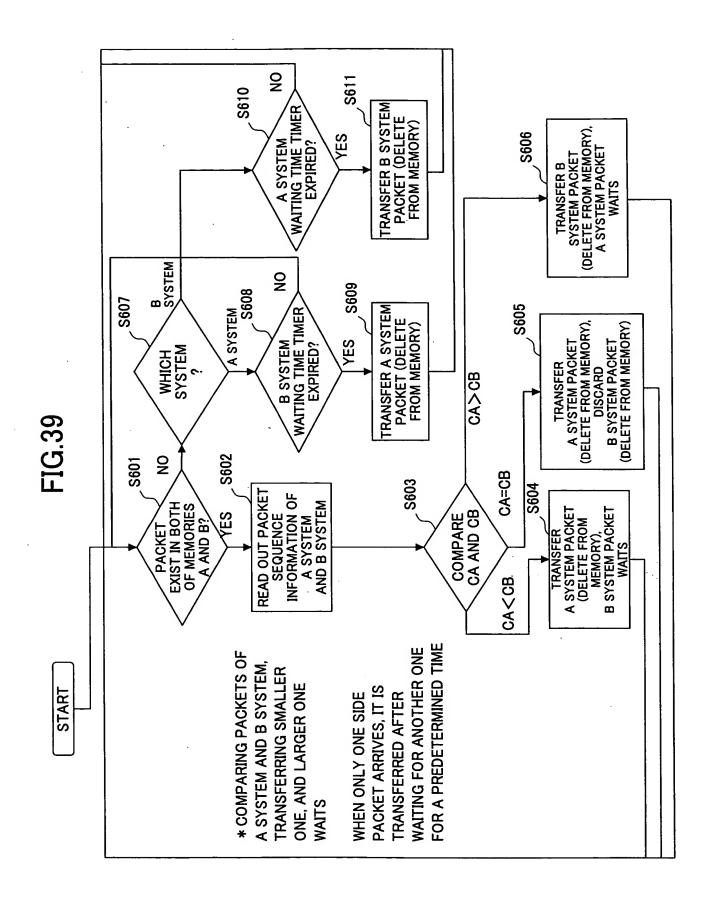
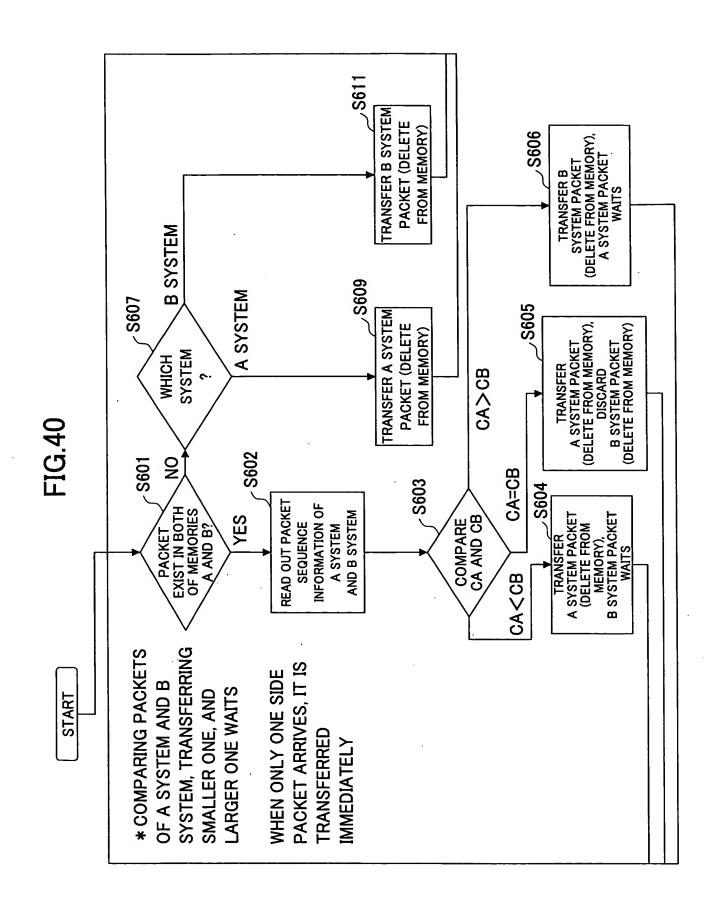


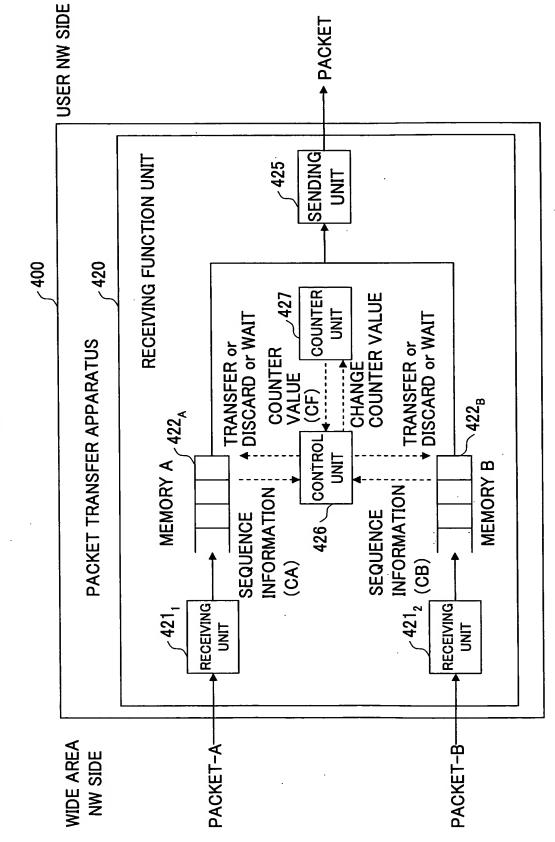
FIG.3



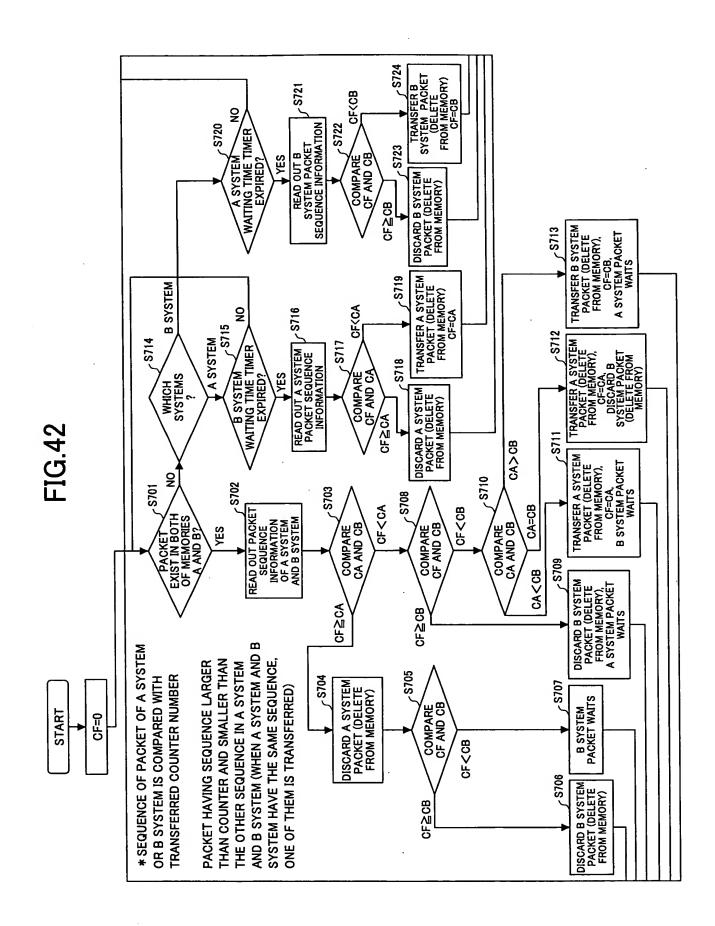
-1G.38







-1G.41



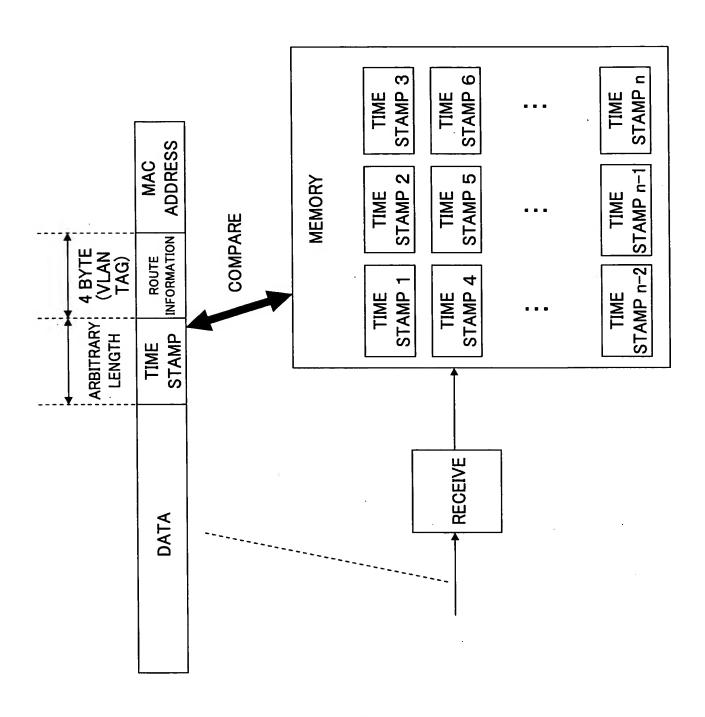
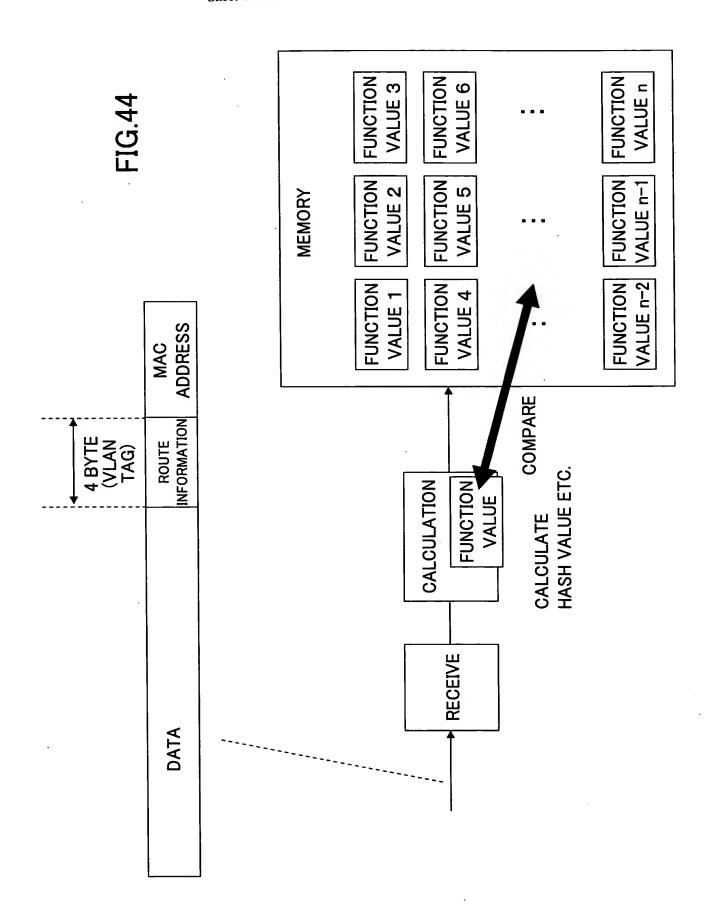
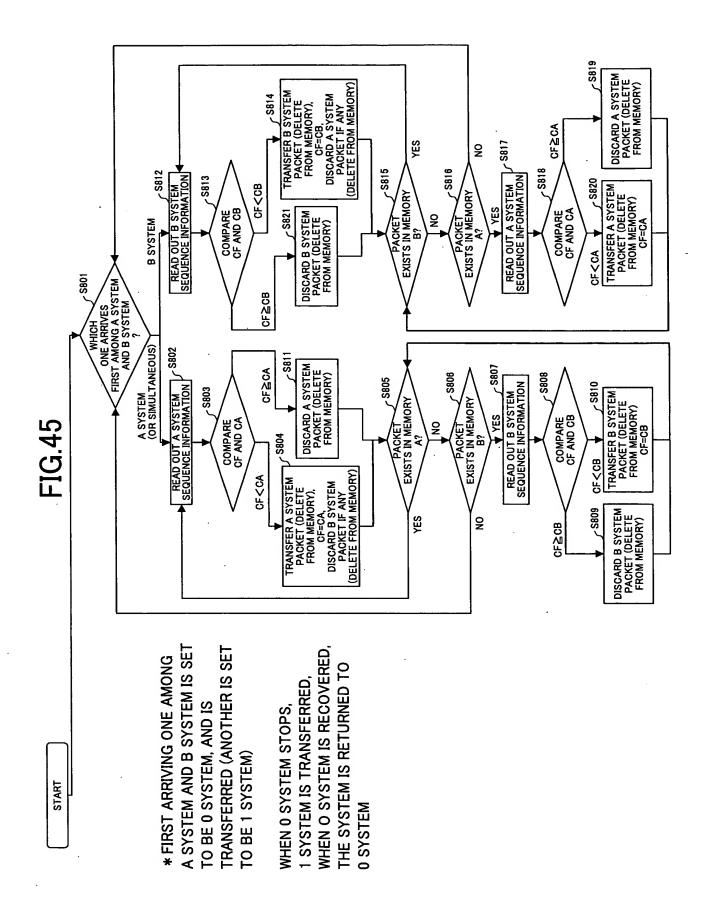
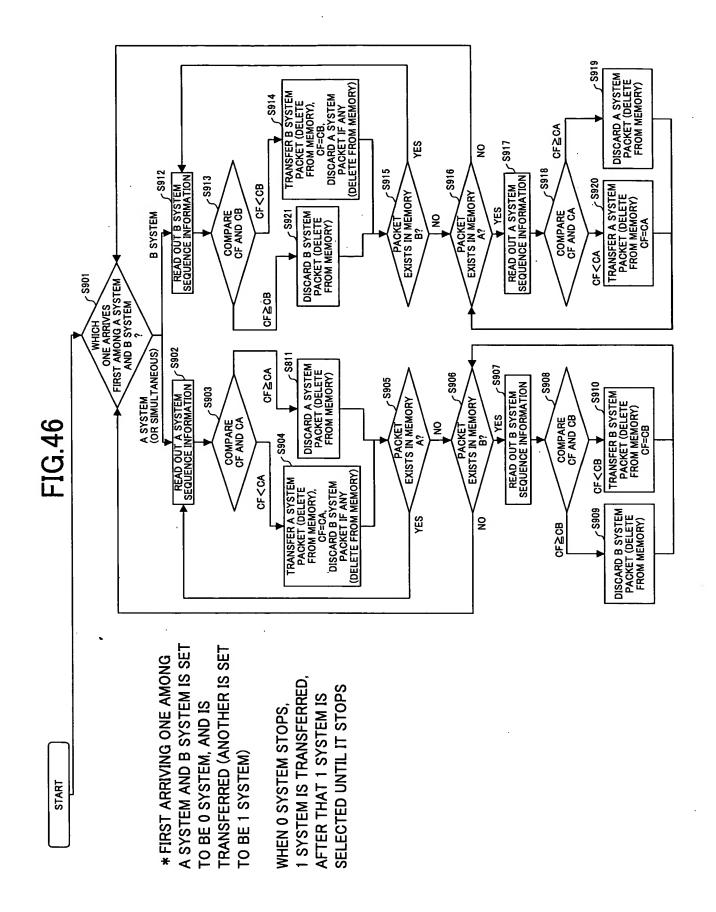


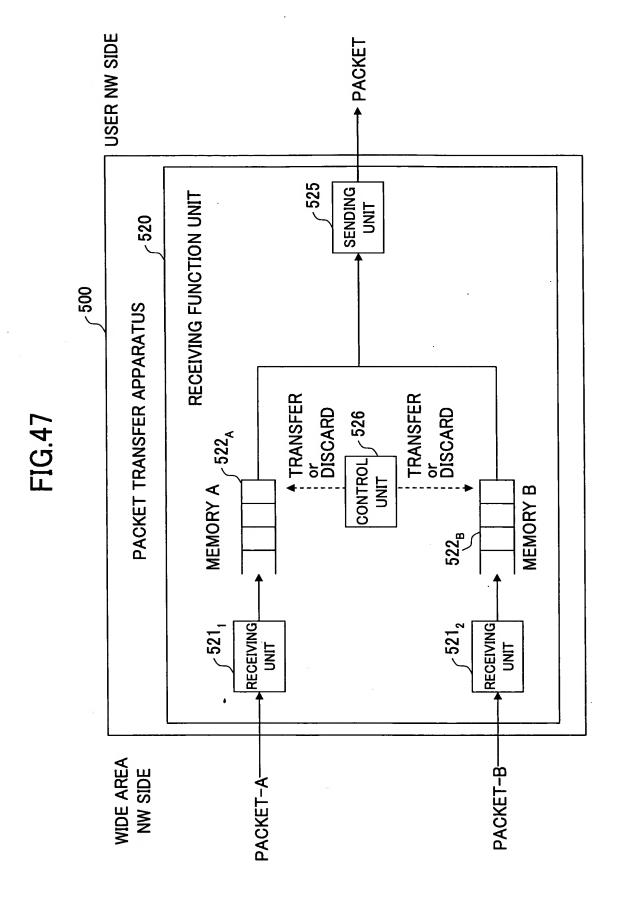
FIG.43

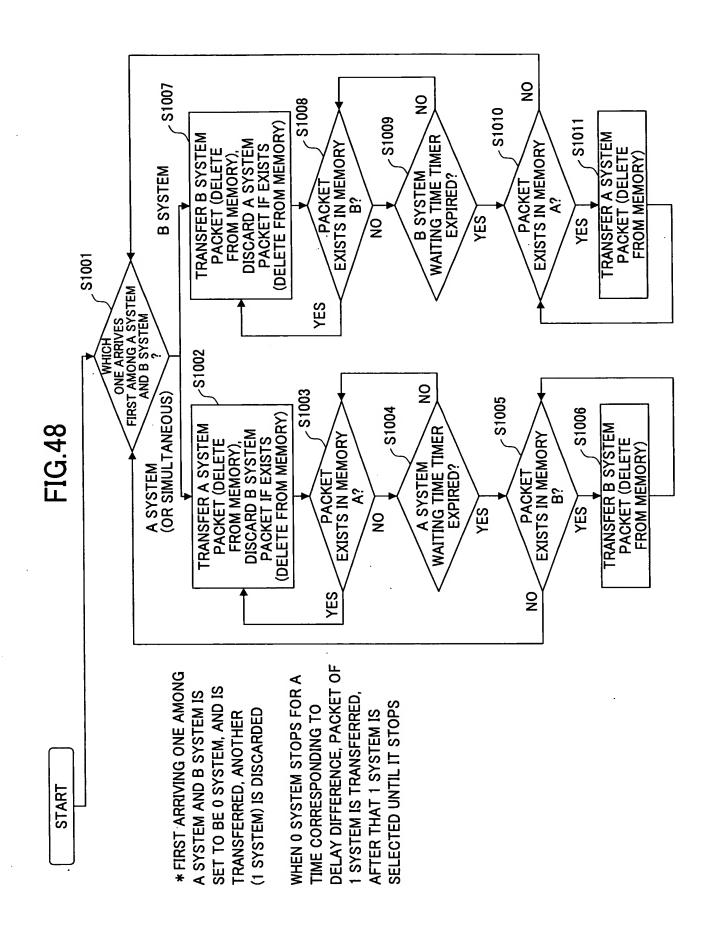


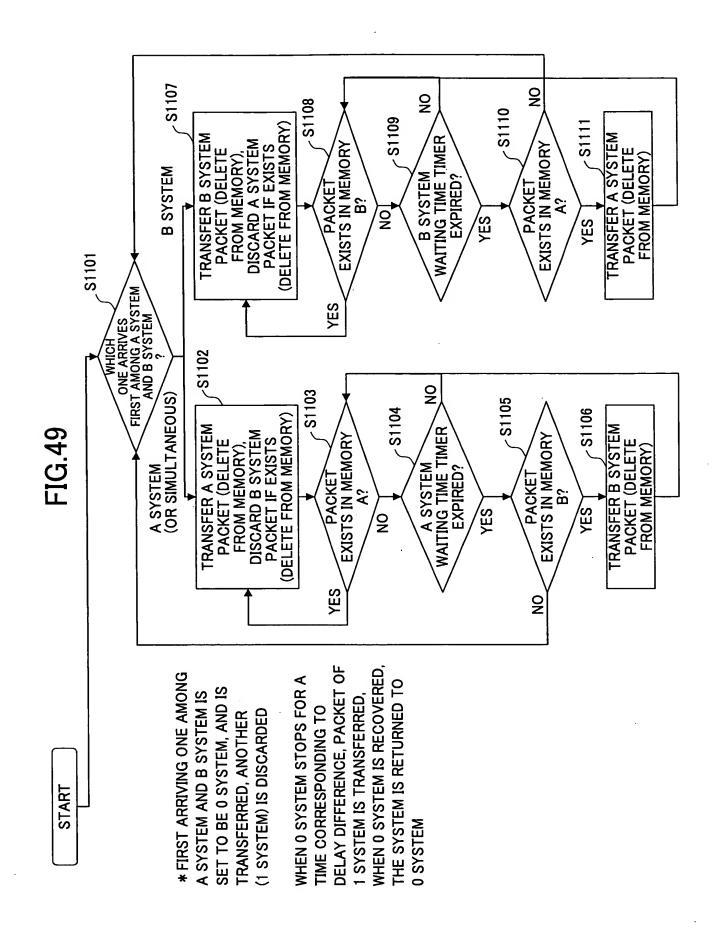


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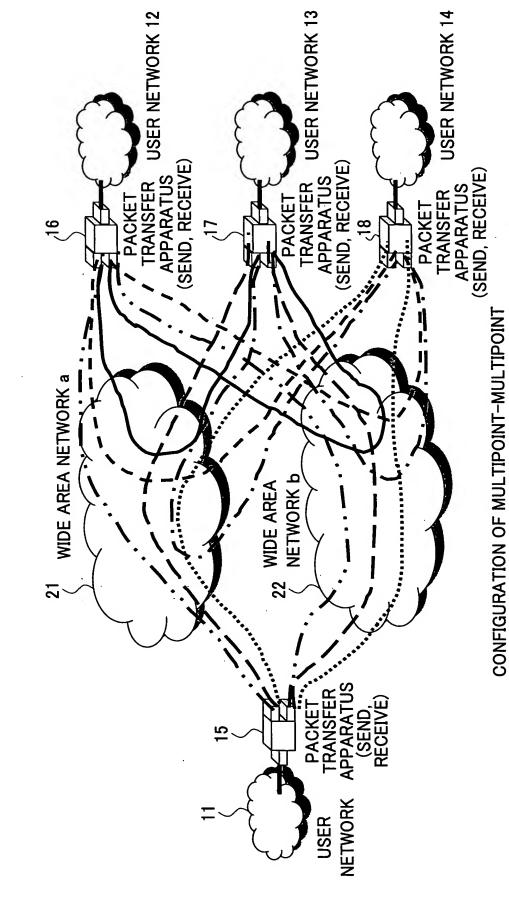


FIG.50

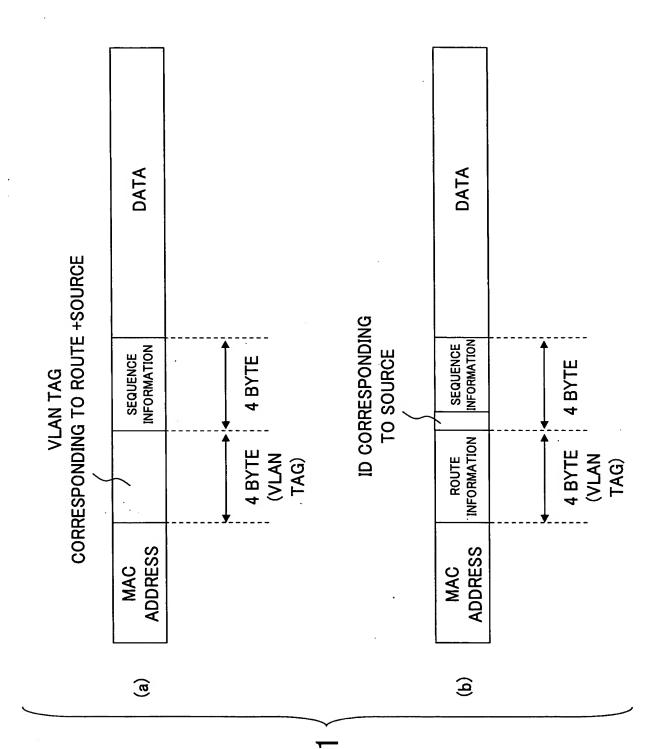
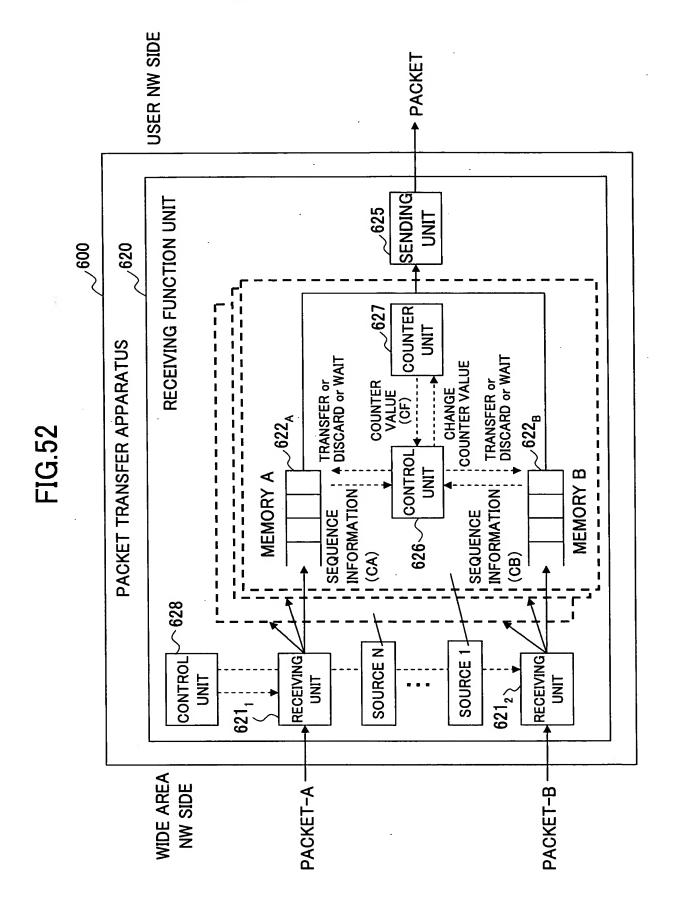
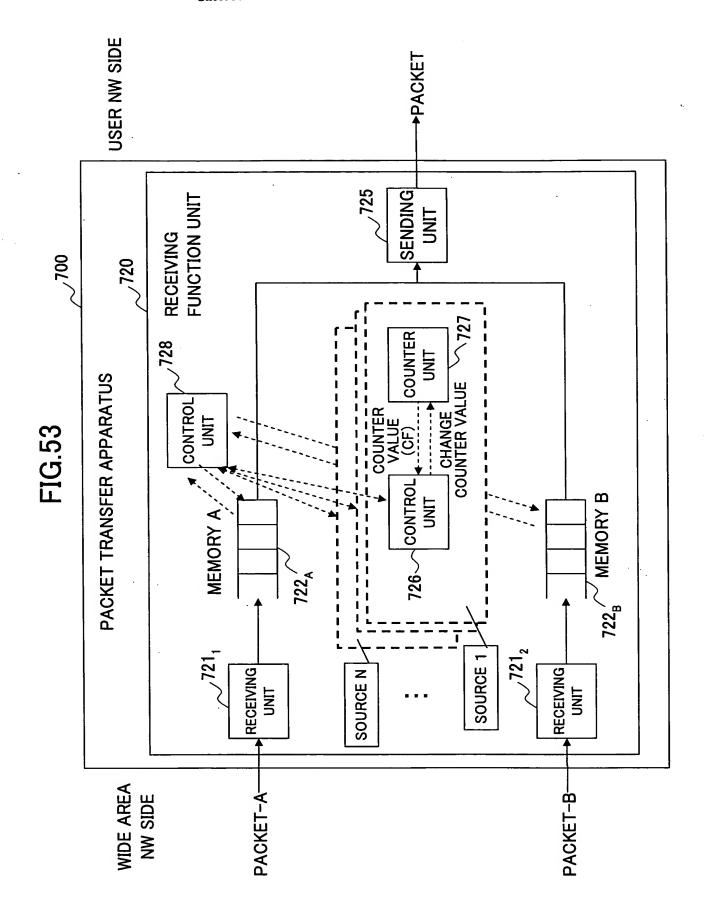
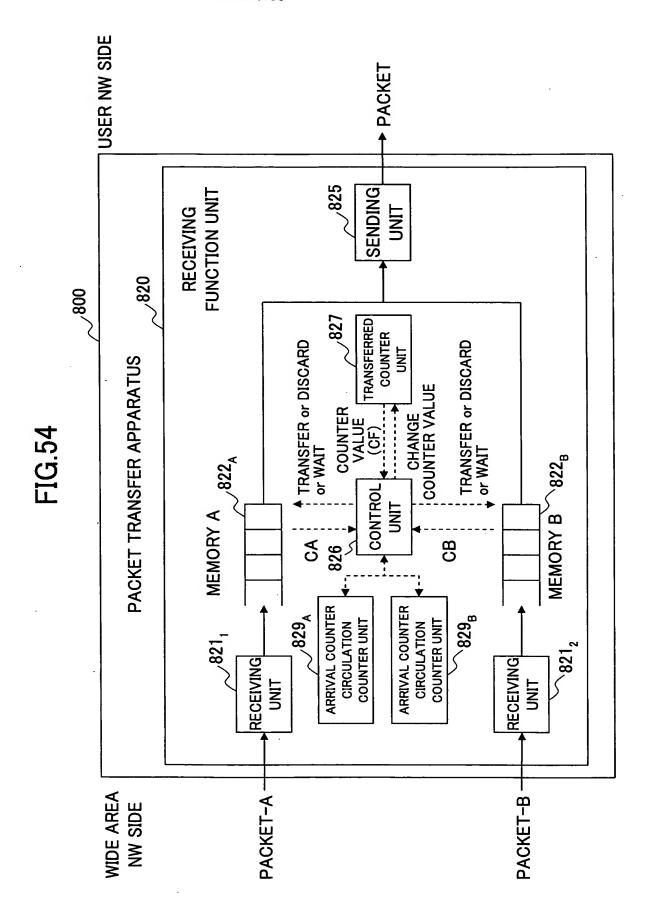


FIG.5



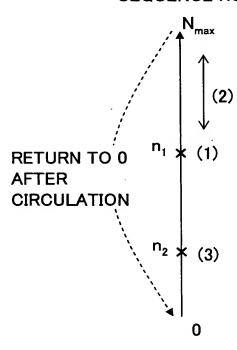




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FIG.55

SEQUENCE NUMBER OF SEQUENCE IDENTIFIER



 N_{max} IS THE MAXIMUM VALUE OF SEQUENCE NUMBER (ex: WHEN SEQUENCE IDENTIFIER IS x BIT, N_{max} =2×)

FIG.56

